

REMARKS

Applicant submits that original claims 1-30 are currently pending in this application. In the Office Action mailed January 27, 2006, the Examiner rejected claims 1-30.

In this Response to Office Action, Applicant has cancelled claim 22 and amended claims 2, 19, and 23 to correct minor clerical errors. Reconsideration of the pending claims based on the preceding amendments and the following remarks is respectfully requested. For ease of reference, the Examiner's comments from the Office Action are reprinted below in 10-point bold type and are followed by the Applicant's remarks.

Specification Objections

1. The abstract of the disclosure is objected to because the word "disclosed" in the first sentence of the abstract is a word which can be implied, and therefore should be deleted. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50-150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The Abstract has been amended in light of the Examiner's objection. The amendment is merely clerical in nature, and is in no way a surrender of subject matter. Furthermore, no new matter has been introduced. Accordingly, Applicant respectfully submits that the Examiner's objection has been overcome.

Claim Objections

2. Claim 2 is objected to because of the following informalities: There is a lack of antecedent basis for "the kelly bushing receptacles." Examiner suggests that "the kelly bushing receptacles" be changed to --kelly bushing receptacles--. Appropriate correction is required.

3. Claim 19 is objected to because of the following informalities: A word is missing from claim 19. Examiner suggests that the word --geometry-- be inserted between “parallelogram” and “both.” Appropriate correction is required.

4. Claim 23 is objected to because of the following informalities: A word is missing from claim 23. Examiner suggests that the word --position-- be inserted between “deactivated” and “wherein.” Appropriate correction is required.

5. Claims 23-30 are objected to because of the following informalities: Applicant is attempting to claim a well drilling process, but does not specify any steps involved in a well drilling process. Examiner suggests that “A well drilling process” be changed to --A method of operating a power slip apparatus--. Appropriate correction is required. For the purposes of examination, it is assumed that the preambles of claims 23-30 are as suggested.

Claims 2, 19, and 23 through 30 have been amended as suggested by the Examiner. The amendments are merely clerical in nature, and are in no way a surrender of subject matter. Furthermore, no new matter has been introduced. Accordingly, Applicant respectfully submits that the Examiner’s objection has been overcome.

Claim Rejections – 35 U.S.C. § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 5-10, 14, 16, 22, 23, 24, 27, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kelley (US 2,340,597).

8. With respect to claim 1, Kelley describes a rotary slip lifter. Kelley further teaches slips (figure 1, item 13) attached to a pulling mechanism (figure 1), where the pulling mechanism is attached to a slip base (figure 1, item 2), and the slip base is seated in the main bushing of a rotary table (figure 1, item 4). Examiner notes that the pulling mechanism is considered to be all items—other than the slip bowl and rotary table—located to the left of an imaginary vertical line drawn through item 37 in figure 1. Kelley further teaches that the pulling mechanism is operated by a cylinder (figure 1, item 43).

9. With regard to claim 5, Kelley states that “lever 43...may be replaced by other suitable and conventional pneumatic or mechanical lever devices of a character well understood in the art,” which would encompass the pneumatic cylinder of claim 5.

10. With regard to claims 6-10, Kelley describes a pulling mechanism with a bottom arm (figure 1, item 25), a top arm (figure 1, item 35), and a pull arm (figure 1, item 29). The slips are suspended from an accommodating link (figure 1, item 22), which is attached to a pull-arm extension (figure 1, item 26).

11. With regard to claims 14 and 22, the pulling mechanism (as defined in paragraph 8 above) of Kelley is within the boundary of the rotary table (figure 1, item 4) when in the activated and the deactivated positions.

12. With regard to claim 16, Kelley describes a slip base (figure 1, item 2) seated in the main bushing of a rotary table (figure 1, item 4). Kelley’s device has slips (gripping means, figure 1, item 13) attached to manipulating means (defined below, figure 1), which moves the slips in between the activated and deactivated positions (figure 1). Examiner notes that the manipulating means are considered to be all items—other than the slip bowl and rotary table—located to the left of an imaginary vertical line drawn through item 37 in figure 1. Further, as can be seen in figures 1 and 2, the manipulating means of Kelley’s device are never outside the boundary of the rotary table, neither in the activated nor the deactivated position.

13. With regard to claims 23 and 30, Kelley discloses a method of operating the power slip lifter apparatus described above. The method involves the following steps:

- a. Constructing the power slip lifter apparatus
- b. Manipulating the pulling mechanism between an activated and deactivated position wherein no portion of the pulling mechanism is outside the boundary of the rotary table in the activated position.

14. With regard to claim 24, Kelley discloses a method of operating the power slip lifter apparatus described above. Kelley further discloses that the pulling mechanism is manipulated by a cylinder (figure 1, item 43).

15. With regard to claim 27, Kelley discloses a method of operating the power slip lifter apparatus described above. Kelley further teaches that the cylinder can comprise a pneumatic cylinder (page 2, column 2, line 70).

With regard to the Examiner's rejection of claims 1, 5-10, 14, 16, 22, 23, 24, 27, and 30 under 35 U.S.C. 102(b) as being anticipated by U.S Pat. No. 2,340,597 ("Kelly"), the Applicant respectfully traverses that rejection as follows:

Claims 1, 5-10, 14, 23, 24, 27, and 30 of the present Application each contain the limitation that "no portion of the pulling mechanism is outside of the boundary of the rotary table." *See, e.g.* claim 1. In rejecting these claims, the Examiner notes that "the pulling mechanism [of Kelly] is considered to be all items – other than the slip bowl and rotary table – *located to the left of an imaginary vertical line drawn through item 37 in figure 1.*" Office Action at 4, ¶ 8 (emphasis added). With all due respect, the Examiner's arbitrary characterization of the "pulling mechanism" of Kelly is incorrect. Specifically, the Examiner's designation excludes most of the components that actually enable the slips of Kelly to be "pulled" from the slip bowl. The following excerpts from Kelly are illustrative:

Attached to the back of yoke 35 and extending rearwardly therefrom are a pair of flat hinge plates 37-37 which are spaced apart and are elongated vertically. *A second pair of hinge plates 38-38 of generally similar form to plates 37-37 are spaced rearwardly from the latter* in general alignment therewith and are supported upon a horizontal arm 39. *Each of the plates 37 and the corresponding plate 38 for two sides of a parallelogram hinge, the other two sides which are formed by pairs of parallel hinge bars 40-40* which have their ends pivotally connected to plates 37 and 38 by means of vertically spaced hinge pins 41-41 and 42-42 extending horizontally between the pairs of hinge plates 37-37 and 38-38, respectively. *The upper pair of hinge bars 40-40 are rigidly connected to an operating handle 43.*

Kelly, pg. 2, col. 2, ll. 22-39 (emphasis added).

With the above described mechanism, the slips 13 may be lowered into the slip bowl 1 by raising operating handle 43 from the position shown in Fig. 1 to the position shown in Fig. 4. Reverse movement of the handle 43 raises the slips from the bowl and retracts them. These movements of the handle operate through the parallel hinge connection to operating yoke 35 to lower or raise the latter, as the case may be

Id., at ll. 46-54 (emphasis added).

As is apparent from the excerpts above, the Examiner's definition of the "pulling mechanism" of Kelly is only partially complete. The pulling mechanism of Kelly does indeed consist of the components to the left of item 37 of Fig. 1 (and the Examiner's imaginary line), *but further consists of at least items 38, 39, 40, and 43 of Fig 1, all of which appear to the right of the Examiner's imaginary line.* This complete definition of the "pulling mechanism" of Kelly is functionally necessary and is completely consistent with the "pulling mechanism" disclosed in the present Application.

Accordingly, with reference to Fig. 2 of Kelly, it is apparent that at least some portion of the "pulling mechanism" (e.g., items 38 and 39) is located *outside* of the rotary table (item 4). Therefore, as claims 1, 5-10, 14, 23, 24, 27, and 30 of the present Application each contain the limitation that "no portion of the pulling mechanism is outside of the boundary of the rotary table," Kelly obviously fails to disclose each and every limitation of the claims at issue, and accordingly fails to anticipate claims 1, 5-10, 14, 23, 24, 27, and 30 under 35 U.S.C. § 102(b).

Similarly, claims 16 and 22 of the present Application each contain the limitation that "no portion of the connecting means is outside of the boundary of the rotary table." As with the claims above, the Examiner rejected claims 16 and 22 noting that "the *manipulating means* [of Kelly] are considered to be all items – other than the slip bowl and rotary table – located to the left of an imaginary vertical line drawn through item 37 in figure 1." Office Action at 5, ¶ 12 (emphasis added). Although the Examiner states "manipulating means," it is believed that the Examiner meant "connecting means," as it is the connecting means that may not be outside the boundary of the rotary table.

Properly construed, the "connecting means" limitation of claims 16 and 22 is analogous to the "pulling mechanism" assembly of claims 1, 5-10, 14, 23, 24, 27, and 30. Accordingly, as

shown above, at least some portion of the “connecting means” assembly of Kelly is located *outside* of the rotary table. *See, e.g.*, Fig. 2, item 4. Therefore, for the same reasons as noted above with respect to claims 1, 5-10, 14, 23, 24, 27, and 30, Kelly fails to disclose each and every limitation of the claims at issue, and accordingly fails to anticipate claims 16 and 22 under 35 U.S.C. § 102(b).

As such, Applicant respectfully suggests that claims 1, 5-10, 14, 16, 22, 23, 24, 27, and 30 of the present Application are all in condition for allowance.

Claim Rejections – 35 U.S.C. § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 2, 3, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley in view of Baugh (US 4,269,277).

With regard to claims 2 and 17, Kelley discloses all the limitations of the above claims, except for the slip base being attached to the rotary table via kelly bushing receptacles.

Baugh discloses a power slip assembly. Baugh further teaches a “base collar...equipped with throughbores by which the entire power slip assembly may be bolted to, for example, the framework of a fluid pressure drive assembly of a snubbing device, to a well workover rig, or to some other support means” (column 11, line 49).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have bolted the slip bowl of Kelley to the rotary table using the

throughbores (or kelly bushing receptacles) of Baugh, in order to have formed a strong, releasable connection between the slip bowl and the rotary table.

With regard to claim 3, neither Kelley nor Baugh discloses connecting the slip base to the rotary table with magnets. However, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Kelley in view of Baugh, so that the slip base would have been connected to the rotary table with magnets, since the examiner takes Official Notice of the equivalence of bolts and magnets for their being used to connect elements of a slip device to the rotary table. The selection of any of these known equivalents to connect the slip base to the rotary table would have been within the level of ordinary skill in the art.

Further, it would have been an obvious matter of design choice to use magnets to connect the slip base to the rotary table, since applicant has not disclosed that using magnets solves any stated problem or is for any particular purpose and it appears that the invention would have functioned equally well with bolts or magnets.

19. Claims 4, 13, 21, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley in view of Moore (US 2,545,627).

With respect to claims 4 and 26, Kelley discloses all of the limitations of the above claims, except for the pulling mechanism being controlled by a hydraulic cylinder.

Moore discloses a slip actuator device. Moore further teaches the functional equivalence of pneumatic and hydraulic cylinders, when he states that his pulling mechanism is controlled by a "plurality of hydraulic or pneumatic cylinders" (column 3, line 29).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the pneumatic cylinder of Kelley with the hydraulic cylinder of Moore, since the examiner takes Official Notice of the equivalence of hydraulic and pneumatic cylinders for their being used to control slip lifters or slip actuators. The selection of any of these known equivalents to control the pulling mechanism would have been within the level of ordinary skill in the art, as evidenced by Kelley and Moore.

With respect to claims 13 and 21, Kelley discloses all the limitations of the above claims, except for the ability to operate the device by remote control.

Moore teaches that the hydraulic lines that control the lifting mechanism are routed to a control valve located at a remote point, "close to where the driller will stand."

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, that if the pneumatic cylinders of Kelley were replaced by the hydraulic cylinders of Moore, then those cylinders could have been operated at a remote location, as also taught by Moore, in order to have kept a safe distance between the operator of the slip device and the slip device itself.

20. Claims 11, 19, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley in view of Poe (US 4,715,456).

Kelley teaches all the limitations of the above claims, except for the top and bottom arms forming a parallelogram shape in both the activated and deactivated positions.

Poe describes a hydraulically actuated slip device for a well pipe. Poe further teaches the use of “parallel links” which, as seen in figure 5, clearly form a parallelogram shape in both the activated and deactivated positions.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made to have replaced the arm assembly of Kelley with the parallel link setup of Poe, in order to have allowed the slip system to be “operated within a reduced area” (Poe, abstract, line 4) and would have thereby improved operator safety.

21. Claims 12, 20, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley in view of Broussard (US 4,450,606).

With regard to claims 12 and 20, Kelley describes all the limitations of the above claims. Kelley does not teach the encasing of the pulling mechanism within a protective sheath.

Broussard discloses a slip elevator device. Broussard further teaches the use of a “protective housing,” which encases the “working mechanism” (the pulling mechanism) of Broussard’s invention (column 7, line 27).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have included the protective sheath of Broussard with the pulling mechanism of Kelley, in order to have “discourage[d] the entry of dust, drilling mud or other abrasive material to the working mechanism” (Broussard, column 7, line 29).

With regard to claim 25, Kelley discloses all of the limitations of the above claims. Kelley does not disclose the use of springs for manipulating the pulling mechanism.

Broussard discloses a slip elevator device. Broussard’s device uses a plurality of coil springs (figure 2, item 42) for the purpose of manipulating the pulling mechanism between the activated and deactivated position. Broussard states that “a plurality of coil springs is provided for biasing the linkage to the upper position thus elevating connected slips” (abstract, line 10).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the pneumatic cylinder of Kelley with the coil springs of Broussard, in order to have provided an equally effective biasing mechanism without the need for air lines or hydraulic fluid lines.

22. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley in view of Moore.

Kelley discloses all the limitations of the above claims. Kelley does not disclose a slip puller apparatus wherein no portion of the device is outside the boundary of the rotary table.

Moore discloses a slip actuator device. Moore’s device is completely within the boundary of the rotary table, as seen in figure 1, where the rotary table is designated as reference numeral 1.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the actuating mechanism of Kelley with the actuating mechanism of Moore, in order to have allowed the slip actuator device to operate within the boundary of the rotary table and would have thereby improved operator safety.

With regard to the Examiner's rejection of claims 2, 3, 4, 11-13, 15, 17, 19-21, 25, 26, and 29 under 35 U.S.C. 103(a) as being unpatentable over Kelly in view of a number of references, the Applicant respectfully traverses that rejection as follows:

Each one of the Examiner's rejections relies on the incorrect assertion that Kelly discloses all of the limitations of independent claims 1, 16, and 23 of the present Application. As noted above, independent claims 1 and 23 each contain the limitation that "no portion of the pulling mechanism is outside of the boundary of the rotary table." Furthermore, independent claim 16 contains the limitation that "no portion of the connecting means is outside of the boundary of the rotary table." However, as noted above, with reference to Fig. 2 of Kelly, it is obvious that at least some portion of the "pulling mechanism" (and, analogously, the "connecting means") is located *outside* of the rotary table.

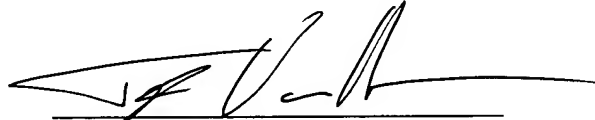
Accordingly, as dependent claims 2, 3, 4, 11-13, 15, 25, 26, and 29 of the present Application each dependently contain the limitation that "no portion of the pulling mechanism is outside of the boundary of the rotary table," and as dependent claims 17, and 19-21 of the present Application each dependently contain the limitation that "no portion of the connecting means is outside of the boundary of the rotary table," Kelly obviously fails to disclose each and every limitation of the claims at issue. As such, the combination of Kelly with any one of the references cited by the Examiner fails to disclose each and every limitation of claims 2, 3, 4, 11-13, 15, 17, 19-21, 25, 26, and 29 of the present Application. Therefore, those claims are not rendered obvious under 35 U.S.C. § 103(a).

As such, Applicant respectfully suggests that claims 2, 3, 4, 11-13, 15, 17, 19-21, 25, 26, and 29 of the present Application are all in condition for allowance.

CONCLUSION

Applicants respectfully submit that the claims pending in this reissue application include steps, elements, and features not disclosed, taught, or suggested by the cited references, either alone or in combination. Accordingly, Applicants submit that claims 1-21 and 23-30 are in a condition for allowance, and respectfully request the allowance of these claims. The Examiner is invited to contact the undersigned attorney at 713.787.1446 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



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